

# Notice of Allowability

Application No.

10/627,274

Examiner

Russell Frejd

Applicant(s)

ANDRZEJAK ET AL.

Art Unit

2128

## -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Applicant's amendment received 3 October 2006.
2. ☒ The allowed claim(s) is/are 1-42.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

### Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

*Russell Frejd*  
**RUSSELL FREJD**  
**PRIMARY EXAMINER**

In re Application of: Andrzejak et al.

***Allowance of Application # 10/627,274***

1. The following communication is in response to applicant's amendment received 3-October-2006. Claims 1-42 are pending in the application.

***Examiner's Amendment***

2. An Examiner's Amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 C.F.R. 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the Issue Fee.

**2.1 In the Specification:**

Page 3 of the amendment - Line 10 of the amended portion to be inserted at page 2, line 16:

Change "particular node do not the processing" to --particular node do not exceed the processing--.

Page 5 of the amendment - Line 1 of the amended portion to replace the paragraph at page 3, lines 16-24:

Change "method of a value change" to --method of determining a value change--.

\*Note: It appears that the word "determining" was inadvertently added and deleted at the same time by the amendment received 3-October-2006.

In re Application of: Andrzejak et al.

***Reasons for Allowance***

3: The following is an Examiner's Statement of Reasons for the indication of allowable subject matter.

3.1 The instant application is directed to a non-obvious improvement over the invention described in USP 6,031,984, issued to Walser, which discloses a method of optimizing an over-constrained system model having hard and soft constraints and variables, wherein each variable is assigned a value, and at least one constraint is selected from a set of unsatisfied constraints. Then, at least one variable is selected from each selected constraint, and a new value is selected from the domain of the variable. The value of the selected variable is changed to the new value, thereby changing the current assignment of variables and updating the memory. These steps are repeated until an assignment is found that satisfies all the hard constraints and is approximately optimal, or until a specified number of iterations has been performed.

3.2 The improvement of the present invention comprises, in various embodiments, a method of determining a value change for a placement variable as part of a local search solution to an integer programming problem that models a placement of services of a distributed application onto nodes of a distributed resource infrastructure. The Walser patent does not teach: an unsatisfied communication constraint; placement variables; a constraint that includes a sum of terms, at least some of the terms comprising products of placement variables; parsing through the unsatisfied constraint by term; and, for each placement variable in the term, updating the stores with a change in the term for each of the allowable changes of the value, while

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maintaining other placement variables constant. These patentable distinctions are included in each of the independent claims, nos. 1, 20-22, 41 and 42.

**3.3** The art of record, either individually or in combination, fails to teach, suggest, or render obvious the useful, concrete and tangible <method of determining a value change for a placement variable as part of a local search solution to an integer programming problem> having the corresponding structure which is disclosed in the specification and equivalents thereof, and Figures 1-10. In view of the foregoing, the claims of the present application are found to be patentable over the prior art.

### ***Response Guidelines***

**4.** Any comments considered necessary by applicant **MUST** be submitted no later than the payment of the Issue Fee and, to avoid processing delays, should preferably accompany the Issue Fee. Such submissions should clearly be labeled "Comments on Statement of Reasons for Allowance".

**4.1 Any response to the Examiner in regard to this allowance should be**

**directed to:** Russell Frejd, telephone number (571) 272-3779, Monday-Friday from 0530 to 1400 ET, or the examiner's supervisor, Kamini Shah, telephone number (571) 272-2279. Inquires of a general nature or relating to the status of this application should be directed to the TC2100 Group Receptionist (571) 272-2100.

**mailed to:** Commissioner of Patents and Trademarks  
P.O. Box 1450, Alexandria, VA 22313-1450

**or faxed to:** (571) 273-8300

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*Hand-delivered responses should be brought to the Customer Service Window, Randolph Building, 401  
Dulany Street, Alexandria, VA, 22314.*

**Date: 18-December-2006**

RUSSELL FREJD

**RUSSELL FREJD  
PRIMARY EXAMINER**